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<p>(21) International Application Number: PCT/AU89/00499 (22) International Filing Date: 17 November 1989 (17.11.89) (30) Priority data: PJ 2043 20 December 1988 (20.12.88) AU (71) Applicant (for all designated States except US): BORAL LIMITED [AU/AU]; 6-10 O'Connell Street, Sydney, NSW 2000 (AU). (72) Inventors; and (75) Inventors/Applicants (for US only) : MERIFIELD, John, Francis [AU/AU]; 28 Anderson Road, Trevallyn, TAS 7350 (AU). DENT, James, Reginald [AU/AU]; 5 Bridgeview Crescent, Mount Riversview, NSW 2774 (AU). CHAMBERS, Norman, Morris [AU/AU]; 2 Wanbrow Avenue, North Balwyn, VIC 3104 (AU).</p>		<p>(74) Agent: SPRUSON & FERGUSON; G.P.O. Box 3898, Sydney, NSW 2001 (AU). (81) Designated States: AT (European patent), AU, BE (European patent), BR, CH (European patent), DE (European patent), ES (European patent), FR (European patent), GB (European patent), IT (European patent), JP, KR, LU (European patent), NL (European patent), SE (European patent), US. Published <i>With international search report.</i></p>
<p>(54) Title: FABRICATED ELECTRIC FENCING</p> <div data-bbox="467 1297 1182 1675" data-label="Image"> <p>The diagram illustrates a section of a fabricated electric fence. It consists of five horizontal wires, labeled with the numeral 4. These wires are supported by a series of vertical pickets, labeled with the numeral 3. The pickets are connected to the wires at junctions where insulators, labeled with the numeral 5, are positioned. The entire assembly is held in place by a series of vertical posts, labeled with the numeral 2. The diagram shows the pickets and posts at both ends of the section, with the wires running between them.</p> </div> <p>(57) Abstract</p> <p>Fencing (1) comprising a plurality of horizontal wires (4), a plurality of vertical pickets (3) and a plurality of posts (2). A plurality of insulators (5) are located at the junctions of the horizontal wires (4) and vertical pickets (3) and act to clamp the horizontal wires (4) and pickets (3) into position thereby providing insulation therebetween. The fencing (1) is pre-fabricated and is erected on site by securing the horizontal wires (4) to the posts (2). Some or all of the horizontal wires (4) and pickets (3) are able to be electrified to meet control requirements.</p>		

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FABRICATED ELECTRIC FENCING

This invention relates to a new and improved electric fencing system or structure, in particular to a prefabricated electric fence which is easy to erect and has versatility in appropriate height and mesh spacings to meet various control requirements.

BACKGROUND ART

Over recent years, the use of electrified fencing has become more prevalent in the fencing for stock and other uses. The most usual method of constructing such electrical fencing is that some of the horizontal strands of wire are electrified with a high voltage, low current, pulsed electric power supply. In constructing such a fence, the posts either have insulators to hold the current carrying wires or must be insulated themselves. A problem exists with the vertical droppers which are to provide strength and shape to the fence. The droppers must be insulated from the current carrying wires.

To construct such electric fencing, involves a number of different parts which must be erected on site. The erection is highly labour intensive and therefore the cost of building such fencing insures that the economics of such fencing puts it into the range where it is used when the enclosed stock or crops are highly valuable.

U.S. Patent 2,530,247 to Koonz generally discloses a wire electric fence fabric having selected horizontal strands electrically insulated.

The type of fencing described above lacks strength in that the pickets are not one piece similar to a woven pattern such as Cyclone Ringlock prefabricated fences. Such a woven pattern enables less droppers and posts to be used thereby also reducing the cost of the fence.

OBJECT OF THE INVENTION

An important object of this invention is to provide a regularly manufactured prefabricated electric fencing system or structure of consistent quality which in the preferred embodiment the horizontal wires are electrically insulated from the one piece vertical wires or pickets which provide strength and stability to the fence.

Another important object of this invention is to provide a range of prefabricated fences which will, by virtue of the varying height and mesh relationship be particularly suited to various specific control requirements.

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Another important object of this invention is that it can be used with a variety of posts and post insulators, and, a variety of end strainers and end insulators.

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DISCLOSURE OF THE INVENTION

According to one aspect of the present invention there is disclosed a fencing comprising a plurality of substantially horizontal wires for carrying electric current, a plurality of vertical pickets insulated from at least one said horizontal wires, wherein said fencing is prefabricated prior to erection on site with said pickets being clamped with insulators and spaced apart from said plurality of horizontal wires.

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Other objects and advantages of this invention will become apparent with disclosures in the accompanying specifications and drawings in which:

BRIEF DESCRIPTION OF THE DRAWINGS

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Fig. 1 is a perspective view of fencing of a preferred embodiment,

Fig. 2 is a detailed front view of the fencing of Fig. 1,

Fig. 3 is a perspective view of an insulator used in the fencing of Fig. 1,

Fig. 4 is a lateral cross-sectional view of part of the fencing of Fig. 1,

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Fig. 5 is an exploded perspective view of another embodiment of an insulator able to be used with the fencing of Fig. 1,

Fig. 6 is a perspective view of another embodiment of fencing, and

Fig. 7 is a detailed front view of the fencing of Fig. 6.

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BEST MODE OF CARRYING OUT THE INVENTION

The fencing as illustrated in Figure 1 comprises a plurality of substantially horizontal wires 4 which can be either active, negative, or neutral depending on the particular requirements of the fencing 1. In the particular fencing 1 illustrated in Fig. 1 every second horizontal wire is active or live whilst the alternative horizontal wires are either neutral or earth return. Also seen in the fencing is a plurality of posts 2 which secure the fencing 1 into position and also a plurality of vertical dropper wires, or pickets 3. These dropper wires 3 are continuous and add strength to the fencing structure 1. The dropper wires are not electrified in the fencing structure 1 as illustrated in Fig. 1.

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The insulator 5 is at the junction of wires 3 and 4 electrically insulating one from the other and fixedly clamps the picket 3 into position

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whereby the picket 3 is immovable in relation to the insulator 5. The insulator 5 also firmly clamps wire 4 into position whereby the linear alignment of the picket 3 can be adjusted if required.

5 Figure 2 shows an enlarged perspective view of the fence structure 1 illustrated in Fig. 1.

Figure 3 shows a perspective drawing of one embodiment of the insulator 5 which is moulded in position at the junction of wire 4 and the picket 3.

10 Figure 4 shows a vertical sectional view through the fencing structure showing the continuous picket 3, the horizontal wires 4, the insulators 5 which occur at the junctions of the wire 4 and the picket 3, and the insulator 15 which occurs at the junction of the ends of the picket 3 and the top and bottom horizontal wires 4. Also shown is the one
15 embodiment of the enclampment 14 of the end of the picket 3 in the end insulator 15, which is a deformation of the ends of the picket 3.

Figure 5 shows a perspective drawing of another embodiment of the insulator 5 which comprises three sections and is shaped like a disc with two end sections 6 and centre section 7 being held together by fasteners 8
20 which pass through sections 6 and 7. The middle section 7 has four bosses 9 on each side of the disc which mate with four recesses 10 in the end sections 6 thereby locating the end sections 6 relative to the centre section 7. The centre section 7 also has a centrally located protrusion 11 on each side which mates with a corresponding recess 12 in the end sections
25 6. When sections 6 and 7 are clamped together with the fasteners 8 the wire 4 and the picket 3 are indented by the action of the protrusion 11 against the recess 12. Due to the indentation the wire 4 and the picket 3 are substantially immovable.

30 The end section 6 has a groove 13 cut into the face which receives the wire 4 and the picket 3.

The fencing as illustrated in Figure 6 is another embodiment of the fencing shown in Figure 1 and comprises a plurality of substantially horizontal wires 4 which can be either active, negative, or neutral depending on the particular requirements of the fencing 16. In the
35 particular fencing 16 illustrated in Fig. 6, the picket 3 is electrically connected to the top and bottom of the horizontal wires 4 so that the pickets 3 can be either active or live, or neutral or earth return as required in the fencing structure 16.

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Figure 7 shows an enlarged perspective view of the fencing structure 16 shown in Figure 6. In particular this figure shows one embodiment of the end connection of the pickets 3 to the top and bottom horizontal wires 4 which achieves both an electrical and firm connection of the pickets 3 to the wires 4.

INDUSTRIAL APPLICABILITY

The prefabricated electric fencing enables the fencing to be installed in a time efficient manner, and the woven nature of the fencing provides a physical barrier as well as an electrical barrier. The adjustment of the wires within the insulators allows the fencing to be easily adjusted for the slope of land on which the fencing is being installed.

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CLAIMS

1. Fencing comprising a plurality of substantially horizontal wires for carrying electric current, a plurality of vertical pickets insulated
5 from a least one said horizontal wires, wherein said fencing is prefabricated prior to erection on site with said pickets being clamped with insulators and spaced apart from said plurality of horizontal wires.
2. Fencing as claimed in claim 1 wherein the vertical pickets are insulated from all the plurality of said horizontal wires.
- 10 3. Fencing as claimed in claim 2 wherein said insulator fixedly clamps said picket in position while said plurality of horizontal wire are able to be moved within said insulator.
4. Fencing as claimed in claim 3 wherein the ends of said pickets are clamped into position into said insulator.
- 15 5. Fencing as claimed in claim 1 wherein said vertical pickets are electrically connected to at least one horizontal wire.
6. Fencing as claimed in claim 2 or claim 5 wherein said vertical pickets are made of metal wire.
7. Fencing as claimed in claim 1 wherein said vertical pickets are
20 made from an insulated material.
8. Fencing as claimed in claim 6 or claim 7 wherein a plurality of insulated posts supports said fencing.

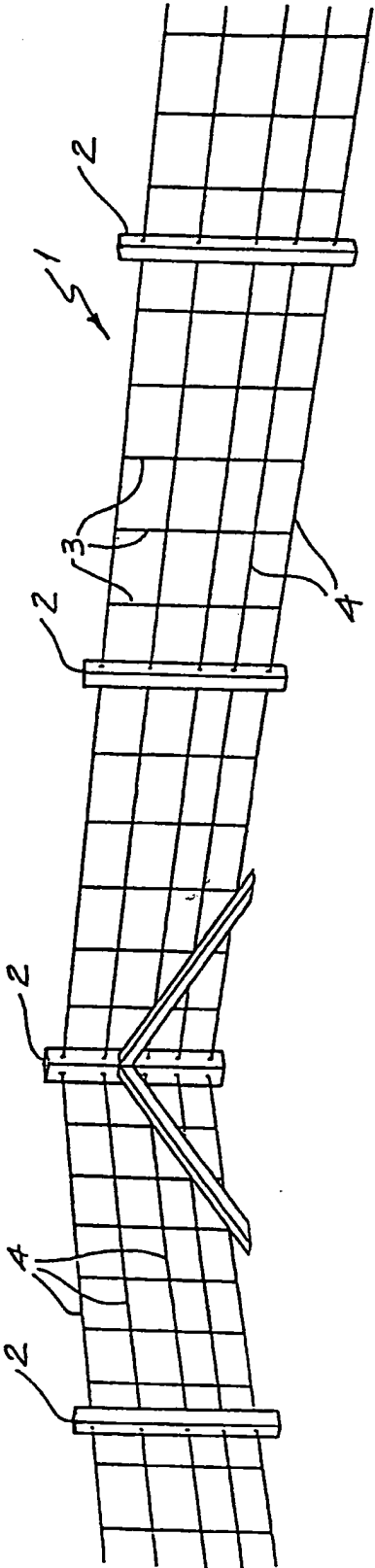


FIG. 1

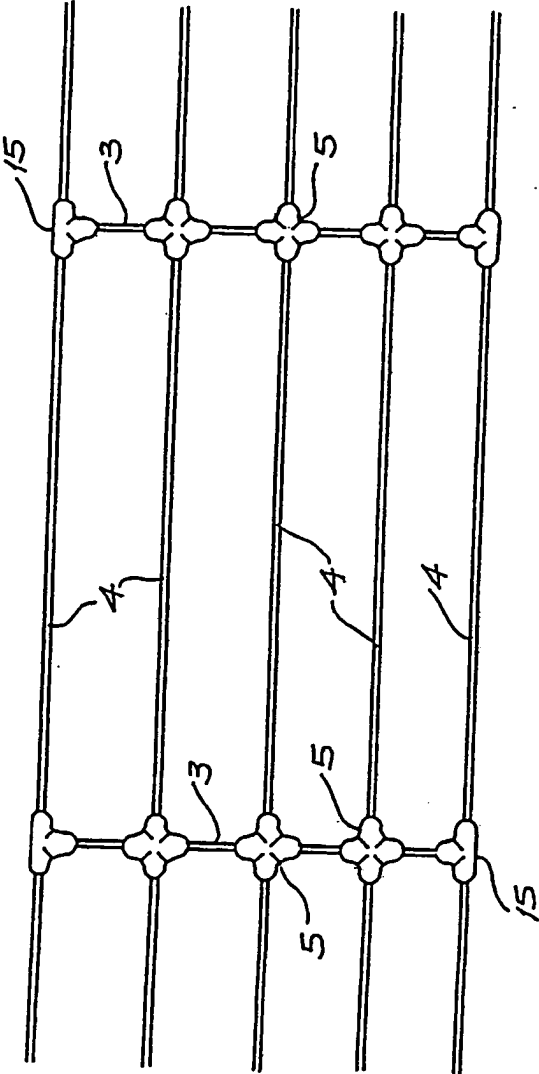


FIG. 2

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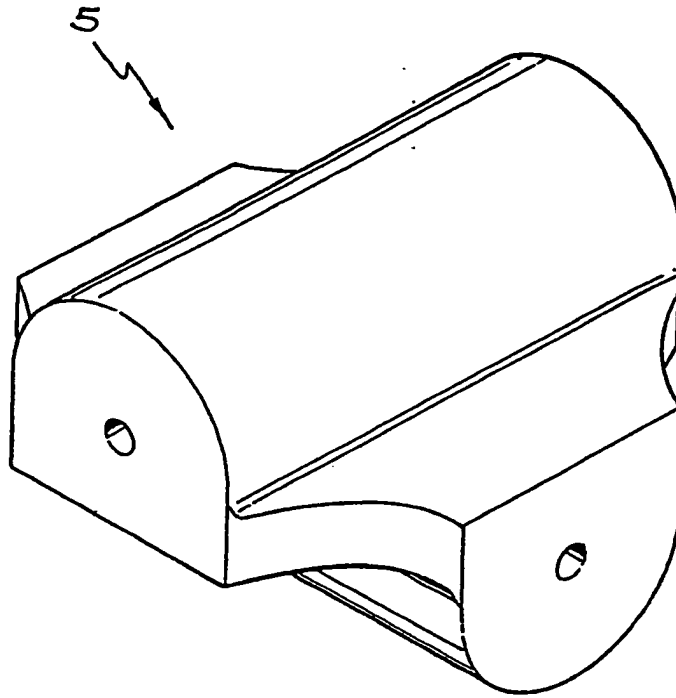


FIG. 3

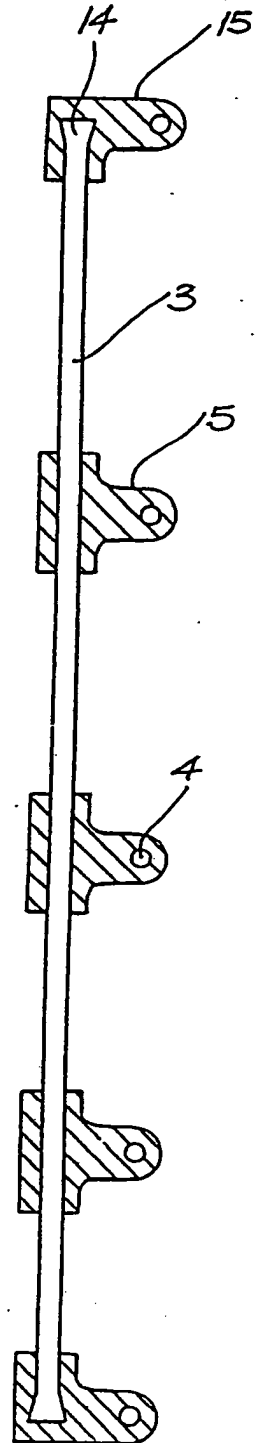


FIG. 4

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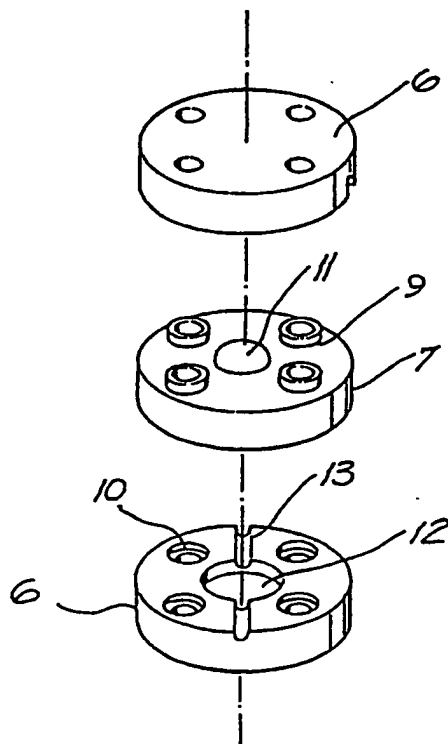
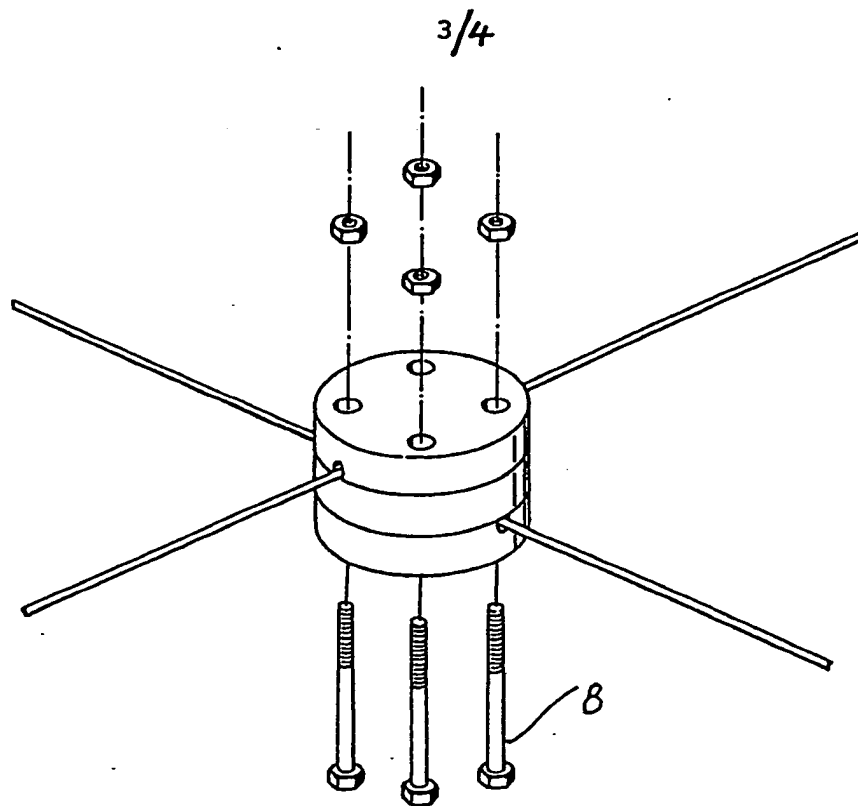


FIG. 5

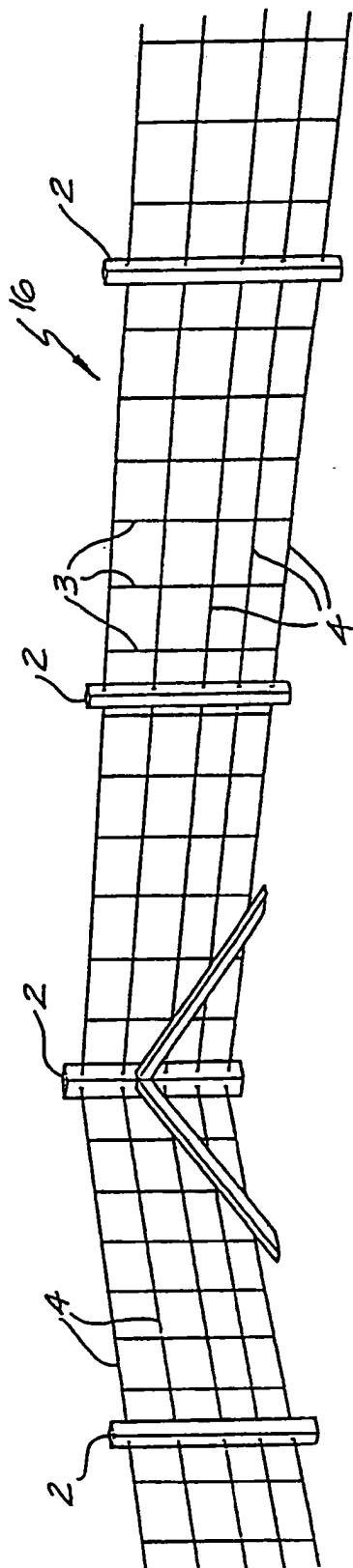


FIG. 6

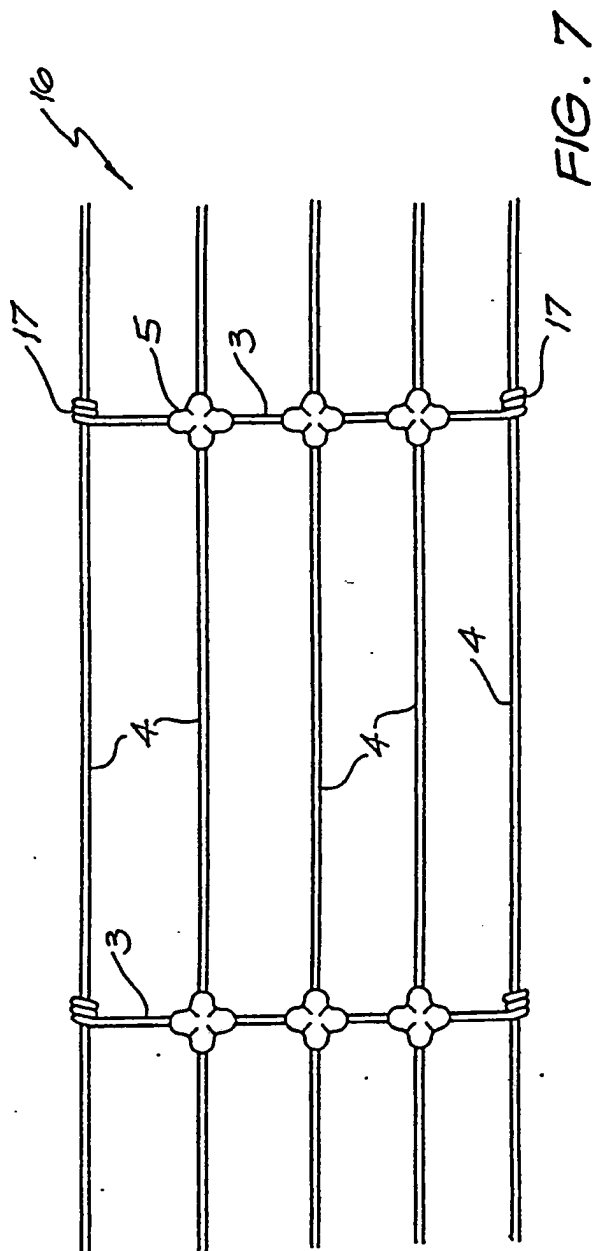


FIG. 7

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INTERNATIONAL SEARCH REPORT

International Application No. **PCT/AU 89/00499**

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) 6

According to International Patent Classification (IPC) or to both National Classification and IPC

Int. Cl. ⁴ A01K 3/00

II. FIELDS SEARCHED

Minimum Documentation Searched 7

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Documentation Searched other than Minimum Documentation
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AU IPC as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT 9

Category*	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages 12	Relevant to Claim No 13
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X	FR,A, 2445105 (SOCIETE C F C E - C A P E M COMPAGNIE FRANCAISE DE LA CLOTUR ELECTRIQUE) 25 July 1980 (25.07.80)	
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IV. CERTIFICATION

Date of the Actual Completion of the
International Search
16 February 1990 (16.02.90)

Date of Mailing of this International
Search Report

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